

FORTH SEMESTER B.Com. DEGREE EXAMINATION, APRIL/MAY 2005

(Vocational Course)

Branch—Actuarial Science

Paper XII—LIFE CONTINGENCIES—I

Time : Three Hours

Maximum : 70 Marks

Candidates are Permitted to consult the table supplied along with the question papers and can use non-programmable calculators.

Section A*Answer any five questions.**Each carries 2 marks.*

1. What is a paid up Life Assurance Policy ?
2. What is meant by Tx ?
3. Explain 'Endowment Assurance'.
4. Distinguish between Assurance and Insurance.
5. Define mortality table.
6. What is Annuities ?

(5 × 2 = 10 marks)

Section B*Answer any six questions.**Each carries 5 marks.*

7. What is a level annual premium ? Enumerate its advantages.
8. What is mortality experience ? Explain.
9. Explain the principle of Insurance.
10. "Bonus loading in Premium rates". Explain.
11. What do you mean by Surrender ? What are the conditions for it ?
12. Find the annual premium at 8 % interest corresponding to an annuity of 12.341.
13. Find out the probability that a life aged 30 will die in the 15th year from now.
14. Calculate the net annual premium under a special Temporary Assurance for Rs. 10,000 on (40) for 20 years. On the life assured survival to the end of 20 years total amount of Premiums paid will be payable. Basis LIC (1970-73) Table and 7 % interest.
15. Explain briefly the calendar year method of mortality investigation.

(6 × 5 = 30 marks)

Section C

*Answer any two questions.
Each carries 15 marks.*

16. Write short notes on any *three* of the following :
- (a) Mortality experience.
 - (b) Principle of Insurance.
 - (c) Car risk table.
 - (d) Policy value.
 - (e) Extra risk.
17. Calculate the office single Premium for an immediate Annuity of Rs. 4,600 per annum payable monthly for 15 years certain and thereafter for a life to a person aged 55. Provide for initial expenses at Rs. 5 per thousand single-premium and 6 % of annuity payments. Basis a (90) Table and 8 % interest.
18. Given that $A_x = 0.7115$ and $ax = 6.5$ determine the rate of interest.
19. An Impaired life aged 35 wishes to effect an endowment Assurance without profits for a sum assured of Rs. 50,000 for a term of 20 years. A life office assumes that he is subject to mortality equivalent to that of a normal life aged 40. Calculate (a) The extra annual premium ; (b) the alternative debt that should be charged, reducing by an uniform amount every year so that the debt extinguishes at the end of 10 years. Basis LIC (1970-73) table and 8 % interest. Ignore expenses.

(2 × 15 = 30 marks)